

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
GUIDANCE FROM HOTLINE COMPENDIUM

WSG H33

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SUBJECT: Applicability of the SWTR and IESWTR to Seawater Systems\*

SOURCE: Clive Davies

How are systems, whose source water is seawater, regulated under the National Primary Drinking Water Regulations (NPDWRs)? In order for seawater systems to convert source water to potable water, a desalinization process must be applied. Distillation and reverse osmosis are the common methods for desalinization of seawater. Considering the special treatment required for seawater systems to produce potable drinking water, what, if any, regulations apply? For example, are seawater systems required to comply with the Surface Water Treatment Rule (SWTR) and the Interim Enhanced Surface Water Treatment Rule (IESWTR)?

**Response:**

Treatment for "Surface water" is regulated by the SWTR and IESWTR. The definition of surface water for these rules is water open to the atmosphere and subject to surface runoff. EPA believes that seawater sources are not, by virtue of their depths and volume, generally affected by surface runoff. Accordingly, such sources would not come under the definition of "surface waters." Moreover, seawater sources of drinking water are generally treated by distillation or through reverse osmosis. These processes achieve a removal or inactivation of viruses and Giarda cysts that far exceeds the levels required under the SWTR. Additionally, the health risk from pathogens is generally much less significant in seawater than in fresh surface water sources. Typically, pathogenic organisms are quickly inactivated in sea water due to the high salt concentration. Also, the rate of dilution of pathogens released into sea waters is generally much more substantial than in fresh waters.

Once a state adopts regulations, interpretation of definitions and the scope of State regulations is left to State discretion as long as any changes result in a regulation which is at least as stringent as Federal requirements. EPA recommends to states that public water systems using seawater sources not be required to comply with the SWTR. States should, however, ensure that design and operating conditions of systems using seawater sources are optimized.